Aug. 30, 1927. 1,641,028

H. M. FLEUKER

GAS MOISTENER

Filed April 17, 1922 2 Sheets-Sheet 1

Fig. 1.

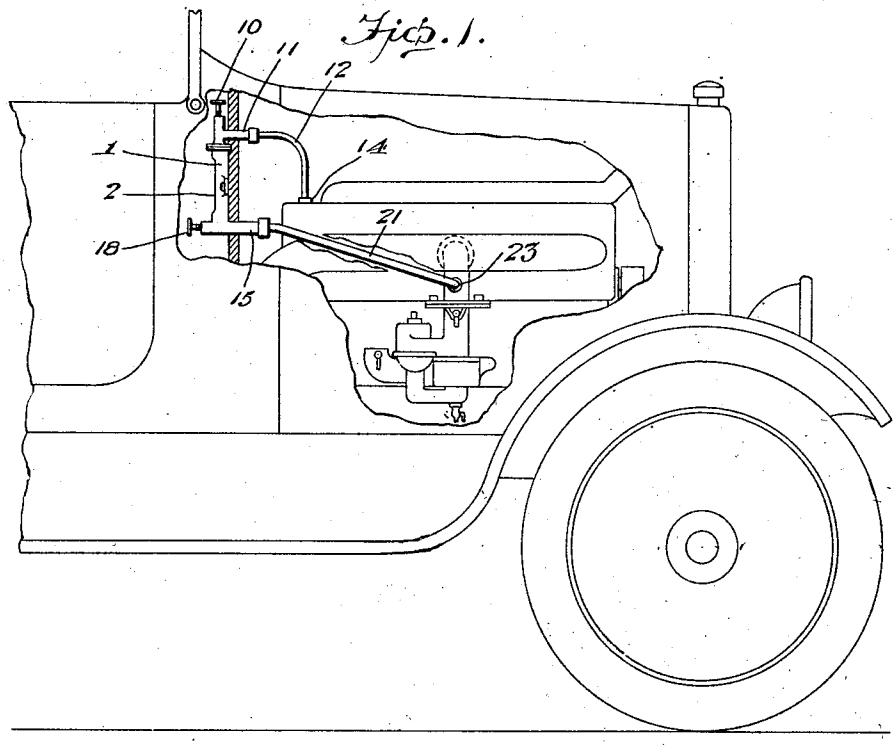


Fig. 4.

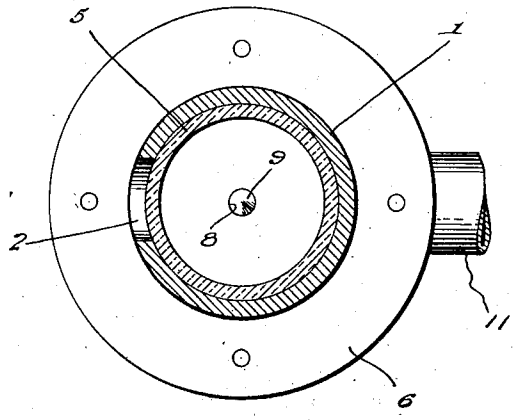
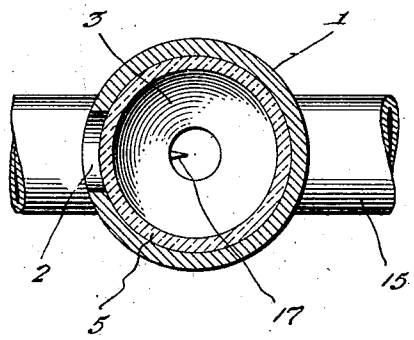


Fig. 5.



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Fig. 3.

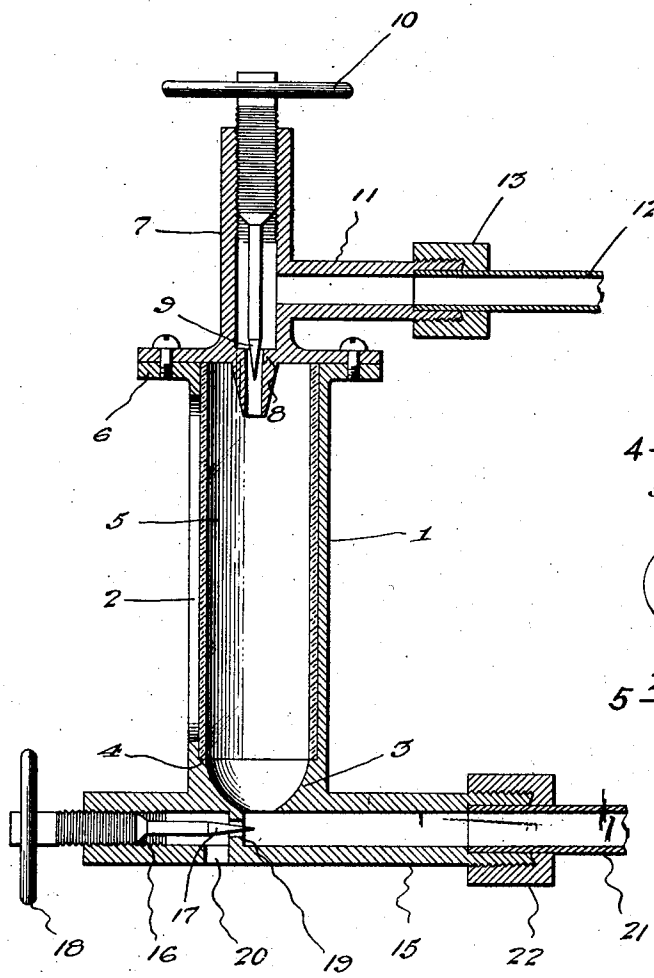
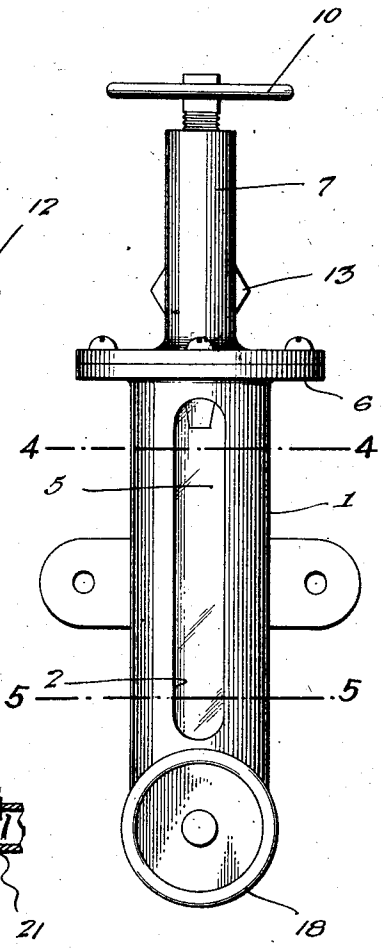


Fig. 2.



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UNITED STATES PATENT OFFICE.

HAROLD M. FLEUKER, OF SALEM, WISCONSIN.

GAS MOISTENER.

Application filed April 17, 1922. Serial No. 553,392.

This invention relates to an attachment for an internal combustion engine, the general object of the invention being to provide means for supplying moisture to the explosive charge as it passes through the manifold.

Another object of the invention is to provide means for regulating the amount of air and of water passing through the device.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claim.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a diagrammatic view showing the invention applied to an automobile.

Figure 2 is a front elevational view.

Figure 3 is a fragmentary longitudinal sectional view.

Figure 4 is a transverse sectional view on the line 4—4 of Figure 2, looking in the direction of the arrow.

Figure 5 is a similar view on the line 5—5 of Figure 2 looking in the direction of the arrow.

In these views 1 indicates a body, preferably of cylindrical shape, and provided with an opening 2. The lower end of the body is restricted, as at 3, a shoulder 4 being formed by the restricted part. A transparent member 5 is held in the body with its lower end resting upon the shoulder and portions thereof appearing through the openings 2 so that the flow of liquid through the transparent member can be seen. The upper end of the body is flanged, as at 6, and the flanged end of a coupling 7 is bolted to this flange 6. This coupling can be removed to insert the transparent member 5. A valve seat 8 is formed in the coupling adjacent the lower end thereof and a needle valve 9 is adapted to engage this seat. The upper thickened portion of this needle is screw threaded and engages the interior screw threads formed in the top of the coupling, the projecting end of the needle valve being provided with a handle 10. The branch 11 of the coupling is connected with a tube 12 by the gland 13 and this tube 12 is connected with the water system of the motor, as shown at 14.

A tube 15 is connected with the lower end of the body 1 so as to receive the liquid passing therefrom, one end of this tube projecting beyond the body and being provided with the internal screw threads 16 for receiving a screw threaded part on the needle valve 17 which is provided with a handle 18. This needle valve is adapted to engage a seat 19 formed in the tube adjacent its connection with the body 2 and an air port 20 is formed in the tube in front of the valve seat. This tube is connected with a tube 21 by the gland 22 and said tube 21 is connected with the manifold of the motor, as shown at 23.

It will thus be seen that the suction created by the moving pistons in the motor will draw some of the water from the circulating system of the motor through the tube 12 into the coupling and from the coupling the water will pass through the body 2 into the tube 15. The suction will also draw air through the port 20 and this air mixing with the water will pass into the manifold through tube 21 and thus mix with the explosive charge. Both the amount of air and the amount of water can be regulated by the needle valves 9 and 17.

In automobiles I prefer to place the device on the dash or instrument board so that the operator can regulate the amount of air and water passing through the device without leaving his seat and this location of the parts will also permit him to observe the amount of water passing through the transparent member.

Instead of connecting the part 7 to part 1 by flanges I may provide these parts with screw threads so that they can be screwed together.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claim.

What I claim is:—

A humidifier adapted for connection between the water jacket and the intake manifold of an engine and including a body, a coupling connected with the upper end thereof, a tube connecting the coupling with the water jacket, a valve for regulating the amount of water entering the body and being arranged in the coupling, a tube con-

nected with the lower end of the body and communicating therewith to receive water therefrom, a wall in said second mentioned tube and having an opening forming a valve seat at one side of the point of connection between the tube and body, said second mentioned tube having an air port therein at the other side of said wall, a valve associated with the seat for regulating the amount of air entering the second mentioned tube, and a pipe connecting said tube with the inlet manifold of the engine.

In testimony whereof I affix my signature.

HAROLD M. FLEUKER.